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ENGINEERING-SCIENCE, INC. *a unit of*
PARSONS ENVIRONMENTAL SERVICES, INC.

1700 Broadway, Suite 900 • Denver, Colorado 80290 • (303) 831-8100 • Fax: (303) 831-8208

August 18, 1994
SP307:081894:03

Mr. Andy Ledford
EG&G Rocky Flats
P.O. Box 464, Building 080
Golden, Colorado 80402-0464

Subject: Summary of the Working Group Agreements

Dear Mr. Ledford:

Enclosed are a revised series of tables that summarize the agreements that have been made during the weekly working group meetings. These tables cover the weekly meetings from October 6, 1993 until August 5, 1994 and address the comments raised at the August 2, 1994 Team Meeting.

If you have any questions, please do not hesitate calling me at 764-8811.

Sincerely,

Philip A. Nixon
Project Manager: Solar Pond IM/IRA

cc: R. Ogg, EG&G
M. Austin, EG&G
K. Ruger, EG&G
M. McKee, EG&G
R. Popish, EG&G (2)
R. Wilkinson
T. Kuykendall
R. Glenn
Central Files

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#1	DATE: October 6, 1993	SUPPORTING REFERENCE: MM: SP307: 100793:01

DECISION:

It was agreed that EG&G needed to identify contaminants of concern to:

WHY/RATIONALE FOR DECISION:

- Identify the magnitude and extent of contamination to determine whether an action is required.
- Help select and justify the recommended action.
- Provide the basis/design criteria for the design of the recommended action.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 2	DATE: October 6, 1993	SUPPORTING REFERENCE: MM: SP307: 100793:01

DECISION:

It was agreed that the requirements of NEPA would be integrated into the IM/IRA decision document. The title of the document will be OU4 Solar Evaporations Pond Phase I IM/IRA-EA Decision Document.

WHY/RATIONALE FOR DECISION:

DOE/EG&G did not want a separate Environmental Assessment.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

#3	DATE: October 6, 1993	SUPPORTING REFERENCE: MM: SP307: 100793:01

DECISION:

It was agreed that the 9 CERCLA selection criteria would be used for the detailed evaluation of alternatives.

WHY/RATIONALE FOR DECISION:

The IM/IRA needed to have a feasibility section. RCRA does not have guidance for evaluating alternatives, therefore the CERCLA guidance was chosen to be the model.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 4	DATE: October 13, 1993	SUPPORTING REFERENCE: MM: SP307: 101393:01

DECISION:

It was decided that the infiltrometer tests that were specified in the workplan would not be performed.

WHY/RATIONALE FOR DECISION:

EG&G has performed a groundwater recharge study which included infiltration tests. This data may be utilized in the OU4 IM/IRA report.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

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# 5	DATE: October 13, 1993	SUPPORTING REFERENCE: MM: SP307: 101393:01

DECISION:

It was agreed that it would be best if Building 788 was not used as a model/pilot study for the D&D of nuclear facilities at the Rocky Flats Plant because of the attention that this could draw.

WHY/RATIONALE FOR DECISION:

It was feared that the overall schedule for project completion could be impacted if building 788 was used as the D&D pilot study for the RFP.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 6	DATE: October 28, 1993	SUPPORTING REFERENCE: MM: SP307: 102893:01

DECISION:

It was agreed that OU4 should consider accepting portions of the OU9 process waste lines within the scope of the OU4 IM/IRA. The potential segments are as follows:
- Line 121 South of the OU4 SEPs
- Line 121 West of the OU4 Ponds from the elbow to the discharge point
- Line 149.2 on the south of C Pond
- Line 149.1 North of Pond C and A

WHY/RATIONALE FOR DECISION:

These line segments would likely be impacted by the SEP closure.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

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# 7	DATE: October 28, 1993	SUPPORTING REFERENCE: MM: SP307: 102893:01

DECISION:

It was agreed that the dermal exposure pathway will be incorporated into the PRGs, the crop ingestion pathway will not be addressed in the PRGs (this will be addressed by the future baseline risk assessment), and a forward cumulative risk assessment will not be required since the PRGs will be modified to account for the cumulative risk. ES will calculate the onsite resident scenario for both adults and children. In addition, target organs may be addressed individually while modifying the PRGs.

WHY/RATIONALE FOR DECISION:

The final Baseline Risk assessment will be completed after the additional hydrogeological studies. The IM/IRA only addresses the direct exposure, inhalation, and ingestion routes of exposure for sources and soils.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 8	DATE: November 2, 1993	SUPPORTING REFERENCE: MM: SP307: 110493:01

DECISION:

It was agreed that the carbon tetrachloride contamination that is identified in groundwater under the south berm of C Pond was originating from Buildings 777 and/or 779 and was not a COC for the OU4 IM/IRA. Therefore, OU4 will not be expected to remediate the carbon tetrachloride.

Note: This decision was re-confirmed by decision #49.

WHY/RATIONALE FOR DECISION:

Carbon tetrachloride is not coming from the SEPs because it was not a component of the process wastes that were disposed. Carbon tetrachloride has not been detected in the OU4 soils. Therefore, the closure of the SEPs is not likely to have a positive impact on the carbon tetrachloride concentration in ground water.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 9	DATE: November 2, 1993	SUPPORTING REFERENCE: MM: SP307: 110493:01

DECISION:

It was decided that only constituents that were on the OU4 RFI/RI analyte list could be COCs. It is expected that all the TICs will be eliminated by this screen since chemicals on the OU4 analyte list should not have included any TICs. In addition, the TICs could also be screened (if necessary) with respect to the historical data base. If a TIC is a COC due to the concentrations in the historical data, then it will be removed from the COC list. PRGs would not be calculated for COCs that did not have toxicity data.

WHY/RATIONALE FOR DECISION:

The RFI/RI list of analytes were selected based on historical monitoring results and process knowledge. As such, constituents not on the list of analytes have a very low probability of being COCs in the IM/IRA.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 10	DATE: November 2, 1993	SUPPORTING REFERENCE: MM: SP307: 110493:01

DECISION:

It was decided that chemical specific ARARs/TBCs for ecological receptors will not be considered in the OU4 IM/IRA. It was agreed that the ecology of the site is heavily modified by industrial activities. It was agreed that the ecological impacts would be minimal with respect to the OU4 IM/IRA, and that the PRGs for human health exposures would likely be more stringent than ecological TBCs.

WHY/RATIONALE FOR DECISION:

An ecological assessment is not of significant importance for the OU4 IM/IRA. The ecological assessment will be addressed in the follow-on hydrogeological studies.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

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# 11	DATE: November 2, 1993	SUPPORTING REFERENCE: MM: SP307: 110493:01

DECISION:

It was decided that To-Be-Considered documents (TBCs) would not be considered for identifying potential clean-up standards. The clean-up standards will be driven by the PRG calculations and any promulgated standards. Groundwater protection standards will not be considered as chemical specific ARARs for the OU4 IM/IRA.

WHY/RATIONALE FOR DECISION:

The TBCs for this project would mostly be ecological risk based standards that were not deemed to be relevant because the OU4 is a heavily disturbed site that does not have an established ecosystem.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 12	DATE: November 9, 1993	SUPPORTING REFERENCE: MM: SP307: 111193:01

DECISION:

It was agreed that OU4 will not be required to implement further characterization studies on the OU9 annexed lines.

WHY/RATIONALE FOR DECISION:

The OU4 RFI/RI characterization data should be adequate for assessing the potential contamination from these lines.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

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# 13	DATE: November 15, 1993	SUPPORTING REFERENCE: MM: SP307: 111693:01

DECISION:

In regards to developing the constituents of concern, it was agreed that the 95% UCLs can be used. The background data will be compared to the 95% UCLs and the readjusted PRGs would be calculated as the arithmetic mean plus two standard deviations. This strategy was proposed and implemented prior to formal CDH, EPA, and DOE agreement to use the Gilbert methodology.

WHY/RATIONALE FOR DECISION:

This is consistent with CDH guidance.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 14	DATE: November 15, 1993	SUPPORTING REFERENCE: MM: SP307: 111693:01

DECISION:

It as confirmed that the removal of Building 788 (including its NEPA documentation) would not be included as a component of the OU4 IM/IRA. EG&G directed ES to exclude Building 788 from the project scope of work.

Note: This decision is reversed by decision # 44.

WHY/RATIONALE FOR DECISION:

DOE wanted the removal of Building 788 to be a separate project so that it could be removed in the Fall of 1994 before the IM/IRA is approved.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE __ CDH __ EPA ✓ EG&G ✓ ERM ✓ ES

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# 15	DATE: November 15, 1993	SUPPORTING REFERENCE: MM: SP307: 111693:01

DECISION:

It was agreed that final ARAR compliance is not required until the final action (ROD). Therefore, the IM/IRA should comply with the ARARs to the maximum extent practicable. However, it was agreed that the closure requirements for a hazardous waste management unit should be complied with for the IM/IRA.

WHY/RATIONALE FOR DECISION:

Some ARARs will be difficult to comply with until after the groundwater is characterized and it is determined if remediation is necessary. ARAR compliance is not required for interim actions. However, compliance with ARARs will be mandatory for the final action (ROD). DOE did not want groundwater ARAR compliance to hold up the IM/IRA. DOE will meet the requirements that are applicable to the IM/IRA.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 16	DATE: November 23, 1993	SUPPORTING REFERENCE: MM: SP307: 112993:01

DECISION:

If was agreed that the Colorado Hazardous Waste Landfill Siting criteria would be added to the ARAR table. The CDH has determined that a Certificate of Designation for a new hazardous waste landfill is not required for the OU4 IM/IRA based on Section 18 of the IAG. However, the CDH specifies that the substantive requirements of the siting criteria would need to be met in order for DOE to leave the liners in-place because the CDH considers the liners to be hazardous waste. The DOE will need to provide a technical demonstration that the closure alternative meets the substantive requirements of the siting criteria if the liners are left in place.

WHY/RATIONALE FOR DECISION:

ES and EG&G questioned the applicability of the Colorado Hazardous Waste Landfill siting criteria to the OU4 IM/IRA. CDH re-evaluated the applicability of the regulation and determination that under the IAG, a Jefferson County Certificate of designation was not required. However, DOE was required to comply with the substantive requirements of the siting criteria. CDH will be the lead agency with respect to approving the demonstration.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 17	DATE: December 15, 1993	SUPPORTING REFERENCE: MM: SP307: 121593:01

DECISION:

Soils that do not have an LDR concern can be consolidated beneath the engineered cover without violating placement. It was agreed that DOE would prepare the IM/IRA specifying that radiologically-contaminated hillside soils may be consolidated under the covered area assuming that the CAMU concept will be promulgated by the CDH. It is likely that contaminated soils from the berms to the seep areas will be consolidated, but that soils north of the seep areas that are impacted by groundwater will be addressed by the Phase II program.

WHY/RATIONALE FOR DECISION:

This will be possible since it is assumed that the State of Colorado will promulgate the CAMU concept.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 18	DATE: December 15, 1993	SUPPORTING REFERENCE: MM: SP307: 121593:01

DECISION:

It was agreed that the liners could remain in place if it could be demonstrated that the entire remedial alternative would be protective of human health and the environment and prevent groundwater contact with the liners and contaminated media for 1000 years. Protection of groundwater must consider both vertical and lateral migration. It was agreed that this does not mean that the engineered barrier must be designed for a passive life span of 1000 years. The system will be designed to operate passively. The post-closure system will be mechanical, but this system will be removed at the completion of the post-closure care period and the closure system will then remain passively for the duration of the 1000 years.

WHY/RATIONALE FOR DECISION:

It was agreed that there is a reasonably high level of confidence that the 1000 year protectiveness can be demonstrated.

NOTE: This decision potentially reverses the November 2, 1993 decision (#11) that ground water protection standards would not be chemical specific ARARs. Demonstration that the closure remediation system will not impact ground water will require that leachate modeling results are predicted to be less than ground water protection standards.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

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# 19	DATE: December 15, 1993	SUPPORTING REFERENCE: MM: SP307: 121593:01

DECISION:

It was agreed that the engineered cover design should not address the prevention of human intruders.

WHY/RATIONALE FOR DECISION:

The prevention of human intruders should be address in the future by a sitewide Record of Decision.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 20	DATE: January 10, 1993	SUPPORTING REFERENCE: MM: SP307: 011094:01

DECISION:

It was agreed that sampling and analysis would be required to verify that the excavated areas could be "clean" closed with backfill and seeding. The vadose zone PRGs would be used as the assessment basis for this verification. Future risk assessment activities will focus on the construction worker exposure scenario. The onsite resident scenario would not be required since once the basement walls were constructed the exposure pathway would be blocked (OU4 has no volatiles of concern).

WHY/RATIONALE FOR DECISION:

A method of verifying that an excavated area was clean closed is required.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

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# 21	DATE: January 10, 1994	SUPPORTING REFERENCE: MM: SP307: 011094:01

DECISION:

It was discussed that each utility will be individually addressed with respect to whether or not it would be impacted by the closure/remediation. Piping that will be removed may be disposed beneath the engineered cover as debris. Piping that will not be impacted by Closure/Remediation will be grouted in-place. Utilities that will be impacted, but are required for RFP operations, will be relocated. Portions of the OU9 OPWLs have been annexed by OU4 and are now considered OU4 remediation wastes.

WHY/RATIONALE FOR DECISION:

Closure and relocation of existing utilities will be required under the IM/IRA.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 22	DATE: January 11, 1994	SUPPORTING REFERENCE: MM: SP307: 011194:01

DECISION:

It was agreed that excavated utilities could be consolidated beneath the engineered cover provided that they do not provide a conduit for contaminant migration.

WHY/RATIONALE FOR DECISION:

The debris rule should be available as the regulatory mechanism for this consolidation.

Note: See decision #21.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

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# 23	DATE: January 18, 1994	SUPPORTING REFERENCE: MM: SP307: 012194:01

DECISION:

It was agreed that DOE was only expected to remediate soils above the ground water table under the IM/IRA. The level of the saturated zone could include the region that is seasonally saturated as the ground water table rises. This means that the zone of soil from the normal water table elevation to the mean seasonal high elevation will be considered saturated (non-vadose zone). Therefore this layer does not have to be excavated or considered as part of the IM/IRA closure/remediation. It was agreed that it was appropriate to leave approximately 1 foot of material between the mean water table elevation and the mean seasonal high water table elevation for the following reasons:

a) Over the period where ground water is anticipated to be remediated (20-30 years) it is highly likely that the ground water elevation will rise to the mean seasonal high elevation and flush any contaminants that are in the soils.

b) From a constructability standpoint it was agreed that excavation into the water table was not desirable.

WHY/RATIONALE FOR DECISION:

Areas of the Vadose Zone that are likely to come into contact with groundwater (since the water table elevation fluctuates) should be considered saturated soils and should be addressed with the phase II program.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 24	DATE: January 25, 1994	SUPPORTING REFERENCE: MM: SP307: 013194:01

DECISION:

It was agreed that a subsurface drainage system would be installed beneath the liners. The liners in the B-Series SEPs will be raised to the level of the liners in SEP207-A. Contaminated media will be used as backfill to create the artificial vadose zone beneath the SEP207-B series pond liners.

Note: This decision has been superseded by decision #36.

WHY/RATIONALE FOR DECISION:

There is a concern that the liners could be put in contact with groundwater if the watertable rises to the historical seasonal high elevation.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

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# 25	DATE: January 1, 1994	SUPPORTING REFERENCE: MM: SP307: 013194:01

DECISION:

It was agreed that ES would include only the appendices that were important to have as reference materials during the round table draft review. Appendices will be made available to any reviewer who request a copy to substantiate their review.

WHY/RATIONALE FOR DECISION:

Given the review schedule, it was highly unlikely that reviewer would have an opportunity or need to read many of the appendices.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 26	DATE: January 25, 1994	SUPPORTING REFERENCE: MM: SP307: 013194:01

DECISION:

It was agreed that the Building 788 foundation and other concrete debris could be rubblized and consolidated under the engineered cover. The foundation was included in OU4 because it was in contact with contaminated soils and would be addressed during excavation.

WHY/RATIONALE FOR DECISION:

The CAMU concept would allow the consolidation of remediation project debris within the 1000 year engineered barrier.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 27	DATE: January 25, 1994	SUPPORTING REFERENCE: MM: SP307: 013194:01

DECISION:

It was agreed that the OU4 IM/IRA was only required to address contamination within the OU4 boundaries. However, DOE may consider the cost benefit from remediating adjacent areas (if required). It was agreed the DOE would only remediate a quantity of soils from outside the OU4 boundaries that could be consolidated into a covered area of reasonable size based upon the physical site constraints at OU4. The industrial area and area between the security fences within OU4 will not be remediated as part of the IM/IRA. These areas will be remediated during closure of these facilities.

WHY/RATIONALE FOR DECISION:

It is important to define a boundary for the remediation aspects of the project.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 28	DATE: January 25, 1994	SUPPORTING REFERENCE: MM: SP307: 013194:01

DECISION:

It was agreed that the boundary of the POC would be based on any or all of the following:

1) The IHSS boundary
2) The area of the original ponds
3) Ten feet past the engineered cover's surface water collection system, and/or the IHSS boundary

WHY/RATIONALE FOR DECISION:

The POC needs to be defined so that G&M can determine an appropriate number of wells for post-closure assessment monitoring.

NOTE: Item #2 "The area of the original ponds was removed from the list of POC criteria on February 1, 1994 when it was agreed that SEP 207-C would be clean closed.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

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# 29	DATE: February 1, 1994	SUPPORTING REFERENCE: MM: SP307: 020394:01

DECISION:

DOE would pursue a clean closure of the SEP 207-C. DOE would excavate down to the level of the historical high water table elevation if necessary and would take samples as excavation was proceeding. In addition, conformational samples would be taken for the purpose of verifying that clean closure was achieved.

Note: This decision was superseded by decision #48.

WHY/RATIONALE FOR DECISION:

A cost benefit analysis indicated that it was likely to be cheaper to excavate C-Pond and consolidate it under the 1000 year cover than to build a 30-year engineered cover.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 30	DATE: February 1, 1994	SUPPORTING REFERENCE: MM: SP307: 020394:01

DECISION:

It was agreed that sampling in the SEP 207-C and SEP 207-B south would not have to be done as currently planned as long as equivalent characterization data was provided during the closure/remediation. DOE may perform sampling and analysis as required to support the design effort.

Note: DOE committed to drilling in C pond to support the title design on August 2, 1994.

WHY/RATIONALE FOR DECISION:

The RFI/RI sampling would not be required as originally scheduled if the SEP-207-C and SEP-207-B south were going to be excavated and clean closed.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

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# 31	DATE: February 1, 1994	SUPPORTING REFERENCE: MM: SP307: 020394:01

DECISION:

It was agreed by all parties that these Parts IV and V will be submitted for roundtable review on March 1, 1994 since the team will be reviewing other Parts until that time.

WHY/RATIONALE FOR DECISION:

Since the conceptual design strategy for SEP 207-C changed, ES and ERM/G&M needed additional time to incorporate the changes into the conceptual design.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 32	DATE: February 1, 1994	SUPPORTING REFERENCE: MM: SP307: 020394:01

DECISION:

It was agreed that the paved road through the buffer zone area will not require remediation via this project. Remediation of this road (if necessary will concur when the overall site remediation/closure occurs unless EG&G/DOE decide that it is best to remediate this road as part of the OU4 IM/IRA project.

WHY/RATIONALE FOR DECISION:

The road may need to be used for delivery of construction materials and for general site access.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 33	DATE: February 1, 1994	SUPPORTING REFERENCE: MM: SP307: 020394:01

DECISION:

The initial post-closure monitoring would be for all the analytes listed in the OU4 RFI/RI Work Plan. This list may also be analyzed once each year. Only COCs that have been detected in soil would need to be analyzed during the remaining quarterly sampling.

WHY/RATIONALE FOR DECISION:

The purpose of post-closure monitoring is to determine if the closed unit is providing a source to groundwater contamination.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 34	DATE: February 22, 1994	SUPPORTING REFERENCE: MM: SP307: 030294:01

DECISION:

It was agreed that the point of compliance (POC) along the northeastern toe of the engineered cover (downgradient) to be the point where the leachate concentrations from saturated VLEACH modeling would be compared to ground water protection standards. However, the CDPHE indicated that the Colorado Water Quality Control division has determined that the POC for ground water compliance will be downgradient of the interceptor collection trench.

WHY/RATIONALE FOR DECISION:

This will permit DOE to allow for contaminant flow and transport from under the engineered cover to the first area where a well could conceivably be drilled.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

#35	DATE: March 15, 1994	SUPPORTING REFERENCE: MM: SP307: 031694:03

DECISION:

It was agreed that only the conceptual design information in the IM/IRA-EA Decision Document would be reviewed by the public.

WHY/RATIONALE FOR DECISION:

The 60% review will not be completed when the IM/IRA-EA Decision Document is submitted for public review. There will not be enough time for a public review of the 60% or 90% design package to meet the construction start date.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 36	DATE: March 29, 1994	SUPPORTING REFERENCE: MM: SP307: 033094:02

DECISION:

It was agreed that only soils beneath IHSS 101 had to be remediated to protect ground water resources under the Phase I program. Soils outside IHSS 101 would be addressed under Phase II with respect to ground water protection. Therefore all the soils in IHSS 101 would be excavated to the mean seasonal high water table elevation and placed above the horizontal subsurface drainage layer.

Note: This decision supersedes decision #24.

WHY/RATIONALE FOR DECISION:

It was not necessary to address ground water protection for soils outside IHSS 101 in Phase I. However, the closure of IHSS 101 must be consistent with the final remedy.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 37	DATE: April 6, 1994	SUPPORTING REFERENCE: MM: SP307: 040694:01

DECISION:

It was agreed that any portion of the CAMU that was not beneath the engineered cover would need to be clean closed. Portions of the CAMU under the engineered cover would be considered closed when the IM/IRA cover was complete.

WHY/RATIONALE FOR DECISION:

A CAMU must be closed when waste management activities are complete.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 38	DATE: April 12, 1994	SUPPORTING REFERENCE: MM: SP307: 041494:02

DECISION:

It was agreed that the contaminant contribution from the Solar Evaporation Pond (SEP) source could be assessed independently of the upgradient and downgradient ground water quality. Therefore, the SEPs could be modeled as the only source of contaminants and it will be assumed the upgradient and downgradient ground water is clean.

WHY/RATIONALE FOR DECISION:

It is regulatorily appropriate to model the SEP source as if it were in a vacuum because it is not possible under the Phase I IM/IRA to remediate upgradient ground water. It is anticipated that the ground water will be remediated within the next 1000 years and then the SEPs will be the source of contamination to clean ground water.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

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# 39	DATE: April 12, 1994	SUPPORTING REFERENCE: MM: SP307: 041494:02

DECISION:

It was agreed that a 1000-year cover in conjunction with a subsurface drain would be required if any hazardous waste was consolidated beneath the engineered cover at concentrations exceeding the Preliminary Remediation Goals (PRGs). If all hazardous waste had concentrations below the PRGs then a RCRA engineered cover would be appropriate. It was agreed that if a RCRA engineered cover were installed, then sampling would be required. If a 1000-year engineered cover were installed, then sampling would not be required.

Note: This decision is modified by decision #47.

WHY/RATIONALE FOR DECISION:

DOE needed a decision criteria for the selection of whether a RCRA-compliant or 1000-year cover design should be implemented. DOE would do a cost benefit analysis to determine if it were appropriate to spend money to sample and analyze all the hazardous materials prior to dispositioning them beneath a RCRA-compliant engineered cover, or whether it was cost effective to construct a 1000-year engineered cover and neglect additional sampling.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH __ EPA ✓ EG&G ✓ ERM ✓ ES

# 40	DATE: April 12, 1994	SUPPORTING REFERENCE: MM: SP307: 041494:02

DECISION:

It was agreed that ground water would not have to be remediated to concentrations lower than background concentrations upgradient from the RFETS. The establishment of ground water remediation standards is a Phase II RFI/RI activity.

WHY/RATIONALE FOR DECISION:

Remediation of ground water to concentrations below those identified upgradient of the site would make it difficult to determine when remediation was complete. The levels could be difficult and costly to achieve.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 41	DATE: April 19, 1994	SUPPORTING REFERENCE: MM: SP307: 042994:01

DECISION:

It was agreed that over time, the engineered cover and vadose zone monitoring information may be used to reduce the amount of ground water sampling that is required. In addition, it was agreed that the analyte list should focus on the COCs and the historical OU4 constituents. Once each year a full HSL or Appendix IX analysis may be performed.

WHY/RATIONALE FOR DECISION:

ERM/G&M presented the rationale and benefits for the conceptually designed post closure monitoring system.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 42	DATE: April 19, 1994	SUPPORTING REFERENCE: MM: SP307: 042994:01

DECISION:

The CDH has tentatively agreed that the Point of Compliance (POC) at the toe of the engineered cover must be protective of ground water with respect to the onsite resident scenario [Phase I]. This means that the DOE does not have to meet Water Quality Control Division ground water standards at this POC but must be below added risk to a future resident drinking water from a well placed at the toe of the engineered cover.

The Water Quality Control Division and the AGO have tentatively specified that ground water monitoring wells in relationship to the ITS will be the POC for the most stringent of all the applicable standards (including surface water and aquatic organisms protection standards) [Phase II].

WHY/RATIONALE FOR DECISION:

DOE requested that the appropriate ground water comparison concentrations be identified.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 43	DATE: July 5, 1994	SUPPORTING REFERENCE: MM: SP307: 070694:01

DECISION:

It was agreed that a formal agency approval will not be required for the geotechnical testing plan and the utilities verification work plan. The plans will be removed from the IM/IRA-EA Decision Document so that they can be implemented prior to the completion of the public review. The IM/IRA-EA Decision Document will be revised to state that these studies will be performed during detailed design, and specify the scope of the work, the purpose of the study, how the results will be used, and what impacts the results may have on the design.

WHY/RATIONALE FOR DECISION:

The DOE wants to implement these plans to get design data as soon as possible and not allow the field work to be hung up in the IM/IRA-EA Decision Document public review period. The EPA/CDH have reviewed the plans in early draft submittals of the document.

CONCURRING AGENCIES/ORGANIZATIONS: __ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 44	DATE: July 5, 1994	SUPPORTING REFERENCE: MM: SP307: 070694:01

DECISION:

The IM/IRA-EA Decision Document was written to include the closure of RCRA units 21 and 48. It was agreed that equipment not directly associated with RCRA units 21 and 48 could be removed from Building 788 prior to formal RCRA closure.

Note: This decision supersedes decision #14.

WHY/RATIONALE FOR DECISION:

EG&G wishes to recycle and re-use certain pieces of equipment that are stored within Building 788.

CONCURRING AGENCIES/ORGANIZATIONS: __ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 45	DATE: July 5, 1994	SUPPORTING REFERENCE: MM: SP307: 070694:01

DECISION:

The EPA indicated that since the CDH is comfortable with the HELP and VLEACH modeling results in the IM/IRA-EA Decision Document that the EPA would not require leachate/column testing.

WHY/RATIONALE FOR DECISION:

The EPA had wanted the leachability results to conform the validity of the modeling results but agreed to retract the request for additional studies if the CDH agreed with the modeling results.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 46	DATE: July 19, 1994	SUPPORTING REFERENCE: MM: SP307: 072194:02

DECISION:

The team agreed base on a re-evaluation of historical data (10 years) that the groundwater elevation fluctuates and that a rise in the ground water elevation was possible. Therefore, the decision to require groundwater protection was based upon the following:

1. Potential for rising water table that could not be definitively quantified
2. Long term goals for protection of human health and the environment
3. The stringent ground water comparison criteria for nitrate (10 mg/L)

WHY/RATIONALE FOR DECISION:

The need for a ground water protection design reqirement was re-evaluated during the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

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# 47	DATE: July 19, 1994	SUPPORTING REFERENCE: MM: SP307:072194:02

DECISION:

It was agreed that if the low-permeability layer in the engineered cover is removed, than it is more important for the DOE to characterize waste materials to ensure that the concentrations of these materials could not result in the production of leachate that exceeds the design criteria. The direct costs of additional sampling and analysis would have to be estimated and compared to the direct cost savings associated with removing the low-permeability layer. In addition, any materials that could not be consolidated beneath the engineered cover without a low-permeability layer (due to high concentrations) would need to be stored or disposed. It was agreed that the DOE could chose to install the low-permeability layer as a conservative measure so the design is less dependent on the concentrations of consolidated wastes. The DOE would therefore no have to extend the project schedule to characterize materials to satisfy themselves that the design criteria would not be exceeded.

WHY/RATIONALE FOR DECISION:

The need for the low-permeable layer was re-evaluated during the dispute resolution. The DOE is interested in providing a conservative design so less effort is required to determine if design basis contaminant concentrations are exceeded.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 48	DATE: July 19, 1994	SUPPORTING REFERENCE: MM: SP307: 072194:02

DECISION:

It was agreed that the modified configuration of the engineered cover was satisfactory and could contain the volumes of the materials which DOE intends to consolidate. The modified engineered cover extends over the SEP 20-C area. Therefore SEP 207-C is not intended to be "clean closed". It was noted that this was contingent upon satisfactory geotechnical results. It was agreed that the subsurface soil and liner volume is approximately 89% of the total waste for consolidation. Therefore the sludge at 7% (treated) would not make much impact on the overall volume. If the geotechnical results demonstrate that there is a problem that can not be corrected by stabilization techniques, then other options might need to be developed:

1. Reconfigure the engineered cover to remove the covered area over SEP 207-C and expand the cover east of SEP 207-B North (this would require removal of building 964).

2. Clean Close the OU4 area and construct a new landfill within the boundaries of the RFP.

Note: The decision reverses decision #29

WHY/RATIONALE FOR DECISION:

The capacity and footprint of the engineered cover was re-evaluated during the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ✓ ERM ✓ ES

# 49	DATE: July 25, 1994	SUPPORTING REFERENCE: MM: SP307: 072694:02

DECISION:

The ground water monitoring data for 1992 and 1993 indicates that only carbon tetrachloride exceeded the 1 percent value in one well in 1992 (1.4%). All of the DNAPLs showed a trend in 1993 towards decreasing concentrations, including carbon tetrachloride which had a percentage that was significantly less than 1 percent (0.08%). It was agreed, based on the decreasing trend in the DNAPL concentrations, that the OU4 IM/IRA closure should not attempt to remediate DNAPL contamination.

WHY/RATIONALE FOR DECISION:

The inclusion of DNAPL remediation into the OU4 IM/IRA was re-evaluated during the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ___ ERM ✓ ES

# 50	DATE: July 25, 1994	SUPPORTING REFERENCE: MM: SP307: 072694:02

DECISION:

Modelling results for the inclusion of sludge beneath the engineered cover indicated that the engineered cover design without the low-permeability layer would not meet the ground water comparison criteria at the toe of the engineered cover. It was agreed that these modeling results indicated that DOE should not have to solidify to sludge prior to consolidation the dewatered sludge beneath the engineered cover. In addition, the engineered cover will be designed with a low-permeability layer.

WHY/RATIONALE FOR DECISION:

An evaluation of whether including the sludge within the IM/IRA would be protective of human health and the environment was conducted during the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G ___ ERM ✓ ES

# 51	DATE: July 29, 1994	SUPPORTING REFERENCE: MM: SP307: 080394:01

DECISION:

It was agreed that the physical form of the backfill was a detailed design issue that would be determined by the ability of the backfill materials to be compacted to an acceptable level for the construction of a stable engineered cover.

WHY/RATIONALE FOR DECISION:

The physical form of the backfill material was an item that required evaluation during the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 52	DATE: August 2, 1994	SUPPORTING REFERENCE: MM: SP307: 080394:02

DECISION:

It was agreed that the 1000-year engineered cover design should be retained for the following reasons:

a. Consolidation of uncharacterized materials.

b. Protection of ground water (especially due to the inclusion of sludge)

c. The goal for long term durability of the final action,

d. DOE's analysis that long term durability could be achieved at a relatively small increase in cost, in addition to a higher probability of public acceptance.

It was noted that infiltration abatement was not the key driver for the installation of the 1000 year engineered cover design.

WHY/RATIONALE FOR DECISION:

The design basis was re-evaluated during the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

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# 53	DATE: August 2, 1994	SUPPORTING REFERENCE: MM: SP307: 080394:02

DECISION:

It was agreed that DOE will prepare the proposed IM/IRA-EA Decision Document to disposition sludge beneath the engineered cover.

WHY/RATIONALE FOR DECISION:

The inclusion of Sludge as a component of the IM/IRA was the cause of the dispute.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G _ ERM ✓ ES

# 54	DATE: August 2, 1994	SUPPORTING REFERENCE: MM: SP307: 080394:02

DECISION:

It was reconfirmed that the DOE Orders are not ARARs. It was agreed that even though the 10 CFR 61 Nuclear Regulatory Commission (NRC) regulations may apply to DOE remediation projects, the criteria are expected to be readily met by the DOE proposed IM/IRA.

WHY/RATIONALE FOR DECISION:

The applicability of 10 CFR 61 NRC regulations was a topic evaluated during the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G _ ERM ✓ ES

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# 55	DATE: August 2, 1994	SUPPORTING REFERENCE: MM: SP307: 080394:02

DECISION:

It was agreed that the offsite disposal of OU4 wastes was not a feasible alternative at this point in time with respect to:

a) cost effectiveness
b) availability of a disposal site
c) risk management from transportation.

WHY/RATIONALE FOR DECISION:

The alternative for off-site disposal was evaluated during the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

# 56	DATE: August 2, 1994	SUPPORTING REFERENCE: MM: SP307: 080394:02

DECISION:

It was agreed that the development of an intergrated RFETS CAMU had long term cost and waste management benefits to this alternative, but it would not be implemented at OU4 because:

a. It would postpone the SEP closure for 5-10 years.

b. It would require a true interim closure for the SEPs with subsequest final closure when the integrated facility was complete.

c. The hillside and buffer zone soils, as well as the sludge, would not be remediated as part of the Phase I IM/IRA.

WHY/RATIONALE FOR DECISION:

The potential use of a RFETS Integrated CAMU for the disposal of the OU4 wastes was evaluated as part of the dispute resolution.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G _ ERM ✓ ES

Attachment
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# 57	DATE: August 5, 1994	SUPPORTING REFERENCE: MM: SP307: 080894:02

DECISION:

The team agreed that appropriate criteria were developed to define the "enhancement" issue associated with determining whether materials are remediation wastes. The team also agreed that no reasons were presented during the dispute resolution re-evaluation indicating that dispositioning sludge beneath the engineered cover was not an enhancement. It was agreed that "enhancement" would need to be demonstrated at the facility level. The inclusion of the SEP sludge and Building 788 debris in the IM/IRA offered the following enhancements in addition to being protective of human health and the environment:

1. DOE would address the disposition of a troublesome remediation waste early (schedule enhancement)

2. DOE would make additional waste storage space available by including these materials in the IM/IRA (site waste manaagement enhancement)

3. DOE would save between 20 and 60 million dollars in waste disposal costs which could be diverted to other remediation efforts (cost savings enhancements)

WHY/RATIONALE FOR DECISION:

The proposed inclusion of sludge in the IM/IRA was the cause of the dispute resolution. Demonstrating that the inclusion of sludge enhances the IM/IRA may be a key issuue in determining whether sludge is a "remediation waste" subject to management in a CAMU.

CONCURRING AGENCIES/ORGANIZATIONS: ✓ DOE ✓ CDH ✓ EPA ✓ EG&G __ ERM ✓ ES

#	DATE:	SUPPORTING REFERENCE: MM: SP307: :

DECISION:

WHY/RATIONALE FOR DECISION:

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